SECTION 901 PORTLAND CEMENT CONCRETE

MATERI	AL	REF.	PURP.	SAMPLED BY	MIN.	MIN. QUANTITY	CERT.	SMALL	TYPICAL HANDLING	REMARKS	
		TESTED BY	25	METHOD	FREO.	CONTAINER	DISTR.	QUANTITY	TIME		
THIS SE SECTIO		O BE USED AS	A GUIDE FO	R OTHER ITEM	NUMBERS WHEN	REFERENCE IS I	MADE TO SI	ECTION 901 O	F THIS MANUA	L. THERE ARE NO PAY ITEMS UNDI	
ADMIXTURES		901.02 1011.02 1018.29 Mat. Lab	Prelim. Source Approval	Dist. Lab S 612	1/type/mfr. batch	1 pt Friction top can			2 months	(QPL 58 & 75)	
		901.02 1011.02 1018.29 Mat. Lab	Accept.	Proj. Engr. S 612	1/type/mfr. batch	1 pt Friction top can*	CD 1 & 7	50 yd³	9 days	(QPL 58 & 75) *Sample when not accompanied b CD or if questionable.	
AGGREGATES (Pavement)	Fine & Coarse	901.02 1003.01 1003.02 Contractor	Quality Control	Contractor S 101	1/day/plant for moisture 2/day/plant for gradation	1 full sample sack				(QPL 2) Gradation results are plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.	
		901.02 1003.01 1003.02 Dist. Lab	Accept.	Proj. Engr.∺ S 101	1/pavement lot*	1 full sample sack		50 yd³	3 days	(QPL 2) Check gradation and foreign matte *For paving concrete produced from non-dedicated stockpiles.	
		901.02 1003.01 1003.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000 yd ³ / dedicated stockpile	1 full sample sack			3 days	(QPL 2) Sample as stockpile is being built.	
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MATE	ERIAL	REFERENCE	PURP.	SAMPLED BY	MIN.	MIN. QUANT.	CERT.	SMALL	TYPICAL HANDLING	REMARKS		
		TESTED BY		METHOD	FREQ.	CONTAINER	DISTR.	QUANTITY	TIME			
AGGREGATES (Structural)	Fine & Coarse	805.18(a) 901.02 1003.01 1003.02 Contractor	Quality Control	Contractor S 101	1/lot	1 full sample sack				(QPL 2) Gradation and moisture content to be run. Lot to be identifiable pour up to 200 yd³ max of concrete. Gradation results shall be plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.		
		901.02 1003.01 1003.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/every 5 days of production or 500 yd ³ of aggregate*	1 full sample sack		50 yd³	3 days	(QPL 2) Check gradation and foreign matter. *For structural concrete produced from non-dedicated stockpiles.		
		901.02 1003.01 1003.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000 yd³/ dedicated stockpile	1 full sample sack		50 yd³	3 days	(QPL 2) Sample as stockpile is being built.		
		901.02 1003.01 1003.02 Dist. Lab	IA	Dist. Lab S 101	*					*See Independent Assurance Program S 701.		
CEMENT (Hydraulic)	Types I , I(B), II IP & IS (Pavement & Structural) Types I, I(B), I(C), II, IP, IS & III (Precast)	901.02 1001.01 1001.02 1001.04 Mat. Lab	Prelim. Source Approval	Mfr. AASHTO T 127	1/month	1 gal Friction top can or acceptable moisture proof container			5 weeks	(QPL 7) Composited and blended from daily plant samples.		
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	MATERIAL		PURP.	SAMPLED BY	MIN.	MIN. QUANTITY	CERT.	SMALL	TYPICAL HANDLING	REMARKS	
		TESTED BY		METHOD	FREQ.	CONTAINER	DISTR.	QUANT.	TIME		
CEMENT (Hydraulic) (Cont'd)	Types I, I(B), II , IP & IS (Pavement & Structural) Types I, I(B), I(C), II, IP, IS & III (Precast)	901.02 1001.01 1001.02 1001.04 Proj. Engr.	Accept.		1/shipment		CD 1 & 7	50 yd ³	17 days	(QPL 7)	
	(cont'd)	901.02 1001.01 1001.02 1001.04 Mat. Lab	Verif.	Proj. Engr. S 102	1/600 tons/ source*	1 gal Friction top can	CD** 1 & 7	50 yd ³	17 days	(QPL 7) *Maximum of one sample per day per source unless questionable. **Copy of CD shall be submitted with sample.	
CONCRETE (Minor Structure)	Compressive Strength	901.08(f)(2) Dist. Lab	Accept.	Proj. Engr. S 301	3 cyl/50 yd³	1 ft ³ 6 in. x 12 in. cylinder mold			30 days	<u></u>	
ondotalcy	Mix Design	901.06(a) Contractor/ Dist. Lab	Design/ Accept.	*	1/mix class or type/material source/plant			50 yd ³	3 days	(QPL 58 - Admixtures, QPL 2 - Aggregates, and QPL 7 - Cement.) *The contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.	
	Slump and Air	901.12 Proj. Engr.	Accept.	Proj. Engr. S 301	1/50 yd³	0.5 ft ³			1 day	When required in Table 1 or individual section.	
CONCRETE (Pavement)	Entrained Air	901.06(b) Contractor	Quality Control	Contractor S 301	2/half day	0.25 ft ³				Air test results shall be plotted on control charts which are required for documentation. Air tests will only be required when an air-entraining admixture is used.	
		901.12 Proj. Engr.	Accept.	Proj. Engr. S 301	1/half day	0.25 ft ³			1 day		

MAT	MATERIAL		PURP.	SAMPLED BY	MIN.	MIN. QUANTITY	CERT.	SMALL	TYPICAL HANDLING	REMARKS
				METHOD	FREQ.	CONTAINER	DISTR.	QUANTITY	TIME	
CONCRETE (Pavement) (Cont'd)	Mix Design	901.06(a) Contractor/ Dist. Lab	Design/ Accept.	*	1/mix type/ material source/plant				3 days	*Contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source for all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Mix Temperature	901.06(b) 901.11 Contractor	Quality Control	Contractor S 301	*					*When temperature control is needed, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	901.06(b) Contractor	Quality Control	Contractor S 301	2/half day	0.5 ft ³				Slump test results shall be plotted on control charts which are required for documentation.
		901.12 Proj. Engr.	Accept.	Proj. Engr. S 301	1/half day	0.5 ft ³			1 day	
	Unit Weight	901.06(b) Contractor	Quality Control	Contractor S 301	*	1.5 ft ³ 0.5 or 1 ft ³ yield bucket				*Unit weight will be run as necessary.
CONCRETE (Structural)	Entrained Air	901.06(b) Contractor	Quality Control	Contractor S 301	2/lot	0.25 ft ³				Air test results shall be plotted on control charts which are required for documentation.
		901.12 Proj. Engr.	Accept.	Proj. Engr. S 301	1/lot	0.25 ft ³			1 day	When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
		901.12 Dist. Lab	IA	Dist. Lab S 301	SEE INDEPENDENT ASSURANCE PROGRAM S 701.					

MA	MATERIAL		PURP.	SAMPLED BY	MIN.	MIN. QUANTITY	CERT.	SMALL	TYPICAL HANDLING	REMARKS
		TESTED BY		METHOD	FREQ.	CONTAINER	DISTR.	QUANTITY	TIME	
CONCRETE (Structural) (Cont'd)	Compressive Strength	901.08(f)(1) Dist. Lab	Accept.	Proj. Engr. S 301	3 cyl/batch 2 batches/lot	1 ft ³ 6 in. x 12 in. cylinder mold			30 days	A lot is an identifiable pour not to exceed 200 yd³. For specific details see Specification Subsection 805.17.
		901.08(f)(1) Dist. Lab	IA	Dist. Lab S 301			SEE INDEF	PENDENCE ASS	URANCE PROGRA	AM S 701.
	Mix Design	901.06(a) Contractor/ Dist. Lab	Design/ Accept.	*	1/mix class/ material source/plant				3 days	*Contractor shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Mix Temperature	901.06(b) 901.11 Contractor	Quality Control	Contractor S 301	*					*When temperature control is required, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	901.06(b) Contractor	Quality Control	Contractor S 301	2/lot	0.5 ft ³		<u>-/</u>		Slump test results shall be plotted on control charts which are required for documentation.
		901.12 Proj. Engr.	Accept.	Proj. Engr. S 301	1/lot	0.5 ft ³			1 day	When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
		901.12 Dist. Lab	IA	Dist. Lab S 301		SEE INDEPENDENCE ASSURANCE PROGRAM S 701.				
	Unit Weight	901.06(b) Contractor	Quality Control	Contractor S 301	*	1.5 ft ³ 0.5 or 1 ft ³ yield bucket				*Unit weight will be run as necessary.

MA	MATERIAL		PURP.	SAMPLED BY	MIN.	MIN. QUANT.	CERT.	SMALL	TYPICAL HANDLING	REMARKS
•		TESTED BY		METHOD	FREQ.	CONTAINER	DISTR.	QUANTITY	TIME	
FLY ASH	Cement Replacement	901.02 1018.15 Mat. Lab	Prelim. Source Approval	Mfr. S 102	1/month	1 gal Friction top can or acceptable moisture proof container			10 weeks	(QPL 50)
		901.02 1018.15 Proj. Engr.	Accept.		1/shipment		CD 1 & 7	50 yd ³		(QPL 50)
		901.02 1018.15 Mat. Lab	Verif.	Proj. Engr. S 102	1/200 tons/ source	1 gal Friction top can	CD* 1 & 7	50 yd ³	17 days	(QPL 50) *Copy of CD shall be submitted with sample.
GROUND IRON BLAST-	Cement Replacement	901.02 1018.28 Mat. Lab	Prelim. Source Approval	Mfr. S 102	1/month	1 Gal Friction top can	CD 1 & 7		17 days	(QPL 70)
FURNACE SLAG		901.08 1018.28 Proj. Engr.	Accept.		1/shipment		CD 1 & 7	50 yd ³		(QPL 70)
		901.02 1018.28 Mat. Lab	Verif.	Proj. Engr. S 102	1/200 tons/ source	1 gal Friction top can	CD.* 1 & 7	50 yd ³	17 days	(QPL 70) *Copy of CD shall be submitted with sample.
WATER		901.02 1018.01 Mat. Lab	Accept.	Proj. Engr. S 301	1/source	1 qt Plastic bottle		50 yd ³	11 days	Drinkable water need not be sampled.